

CLAIMS

1. Improved hydraulic lifting sectional security door, capable of being installed at an entry space to a room, comprising a pair of profiles (PRF), associated with 5 respective rails (RT), arranged near to each frame (STP) of the entry space, a single panel or a series of panels (PNL) articulated together and a device or group (GP) for lifting the panels (PNL), which includes a hydraulic cylinder (CI), to which lifting cables (FA1, 10 FA2) are fixed, characterised in that said lifting cables (FA1, FA2) start from stops (FE1, FE2) foreseen in a substantially central position with respect to said cylinder (CI) and go, on the way out, towards return pulleys (PU1, PU2) in a balanced manner, such 15 that said container (CAS) can be installed with the hydraulic cylinder (CI) in a right or left position with respect to the entry space, according to the user's desires and requirements,
2. Improved hydraulic lifting sectional security door 20 according to claim 1, characterised in that said lifting device or group (GP) is inserted inside a motorisation container (CAS), comprising a shaped profile (CA) closed at the side by position stops (TE1, TE2) fixed to said container (CAS), which are 25 invertible and are formed from a suitably bent and shaped sheet with a series of bores, *and*

3. Improved hydraulic lifting sectional security door according to claim 2, characterised in that each position stop (TE1, TE2) has at least one pin (PER), on which at least one of said return pulleys (PU1, PU2, PU3) is journalled.

2¹. Improved hydraulic lifting sectional security door according to claim ¹ 2, characterised in that said container (CAS) foresees at least one intermediate face (FA), on which at least one cylinder support (SU), at least one cylinder block (BC), at least one tube support (ST), at least one microswitch support (SM) and at least one support (SB) for at least one microswitch-carrying bar (BPM) can be formed, said supports preferably being formed directly from the sheet constituting the container (CAS) to avoid additional material costs.

3². Improved hydraulic lifting sectional security door according to claim 1, characterised in that said hydraulic cylinder (CI) is connected to a plurality of lifting pulleys (PL1, PL2, PL3, PL4) and, in particular, has a stem (STE) equipped with at least one first axis (AS1), on which at least one first pair (PL1, PL2) of said lifting pulleys (PL1, PL2, PL3, PL4) rotates, and with at least one second axis (AS2), on which at least one second pair (PL3, PL4) of said lifting pulleys (PL1, PL2, PL3, PL4) rotates, said

stops or locks (FE1, FE2) used for the hooking of the lifting cables (FA1, FA2) being mounted on said first (AS1) or second (AS2) axis, for each side of the cylinder (CI).

5 ~~4.~~ Improved hydraulic lifting sectional security door according to claim ~~3~~³, characterised in that said lifting cables (FA1, FA2) pass, alternatively, on the lifting pulleys (PL1, PL2, PL3, PL4) journalled on to said first (AS1) and second (AS2) axis, as tackle, 10 before being sent to said return pulleys (PU1, PU2, PU3), or else they go directly from said second axis (AS2) to said return pulleys (PU1, PU2, PU3).

5 ~~2.~~ Improved hydraulic lifting sectional security door according to claim ~~4~~⁴, characterised in that said 15 lifting cables (FA1, FA2) start from stops (FE1, FE2) arranged in a position next to said cylinder (CI), and their exit in the direction of the return pulleys (PU1, PU2) takes place on the outer sides of said first pair (PL1, PL2) of lifting pulleys (PL1, PL2, PL3, PL4), so 20 as to be able to rotate said container (CAS) and to take said cylinder (CI) and the exit of the hydraulic tube (TU) to the right or to the left of the entry space simply varying a first cable (FA1, FA2) leaving at a right angle downwards on a first return pulley 25 (PU1, PU2) and taking a second cable (FA1, FA2), after having been deviated by 180° on a second return pulley

(PU2), to a third return pulley (PU3), which deviates it at a right angle downwards.

6. Improved hydraulic lifting sectional security door according to claim ¹~~2~~, characterised in that said motorisation container (CAS) can foresee a series of pre-holes (PFR), at least on the side opposite the one where said hydraulic cylinder (CI) is installed, for the exit of said lifting cables (FA1, FA2), in order to suitably displace at least one first position stop (TE2).

7. Improved hydraulic lifting sectional security door according to claim ⁶~~8~~, characterised in that said container (CAS) foresees the installation of at least one portion of a further container extension (PRO), which allows it to be made adaptable in door width, for width measurements (LR) which can be adjusted, said extension (PRO) being equipped with a series of top bores and holes corresponding to the attachment holes of said first position stop (TE2) to the container (CAS).

8. Improved hydraulic lifting sectional security door according to claim ⁷~~8~~, characterised in that at least one end of said extension (PRO) is equipped with attachment holes of said first position stop (TE2) to the container (CAS) and preferably at least one small profile (SPE), preferably angular-shaped, is placed

between said first position stop (TE2) and said extension (PRO) to compensate the heights, said top bores, in a preferred version, being foreseen for the application of said first mirror-like position stop 5 (TE2), so as to be reversible.

9¹¹. Improved hydraulic lifting sectional security door according to claim 10⁸, characterised in that said extension (PRO) is joined to said container (CAS) by means of at least one reinforcement bracket (SRI), 10 which essentially keeps the open side of the container (CAS) and of the extension (PRO) joined, at the joining point.

10¹². Improved hydraulic lifting sectional security door according to claim 10⁹, characterised in that, 15 preferably at said bracket (SRI), at least one sliding block (PAF), preferably made from anti-friction material, is mounted, which limits the lowering of at least one of said lifting cables (FA1, FA2) in cases of maximum extension of the container (CAS) and extension 20 (PRO) group.

11¹³. Improved hydraulic lifting sectional security door according to claim 7⁹, characterised in that said container (CAS) and said extension (PRO) are preferably equipped with at least one cover.

12²⁵ 14. Improved hydraulic lifting sectional security door according to claim 1, characterised in that said

lifting cables (FA1, FA2) can be adjusted through screw adjustment systems.

13 15. Improved hydraulic lifting sectional security door according to claim 14, characterised in that said

5 lifting cables (FA1, FA2) are thrusted below a base panel of the door, preferably in a suitable throat, and deviated up to a container (FG), in which they are fixed, said container being connected to a plate (PI), which in turn is connected to a biscuit element (BI) 10 which, in the case of breakage of at least one cable (FA1, FA2), rotates and engages on the rail (RT), blocking the lowering of the door.

14 16. Improved hydraulic lifting sectional security door according to claim 15, characterised in that to said 15 biscuit (BI) a device (DBF) is applied comprising a bearer plate (PI) and a container with a throat (FG), in which said lifting cables (FA1, FA2) are passed which, after having been wound around a preferably trapezoidal key (CH), is passed back inside said 20 container (FG), so that it can spontaneously lock by throttling, through the action of the key (CH) inside said container (FG), said adjustment being realised by action on a suspension screw (VR) of said container (FG).

15 17. Improved hydraulic lifting sectional security door according to claim 1, characterised in that it is

possible to carry out an emergency lifting manoeuvre of said door, in the case of a lack of electrical energy at the motor, by means of a manual pump, or through the use of an electric drill, powered by batteries or compressed air, the bit of which is actuated in engagement with the suitably arranged drive shaft, since the axis of the electric motor, which is opposite the side connected to a hydraulic pump or to a geared motor of an electrohydraulic power unit, is generally uncovered and is free for the connection of said drill.